

U.S. Patent Application Serial No. 09/700,908
Amendment dated December 23, 2003
Reply to OA of September 23, 2003

REMARKS

Claims 11-12 and 14-17 and 25 are pending in the application. Claims 1-10 and 18-24 are withdrawn from consideration and Claim 13 is canceled.

The support for the claim amendments is as follows: claim 25 (p.11, lines 24-25; p.12, lines 23 to p.13, line 8; p.15, line 16 and p.20, lines 20-23); and Claims 11-12 and 14-17 (formalities amendments).

The applicants respectfully submit that no new matter has been added.

Claim 25 is rejected under 35 U.S.C. §112, second paragraph, as being indefinite. The amendments to claim 25 make this rejection now moot.

Claims 25, 11-13 and 16 are rejected under 35 U.S.C. §102 as being anticipated by **Nakagawa JP'688**.

Nakagawa JP'688 concerns a thermoplastic with short glass fibers (1-6mm; para. [0021], [0037]) which as been made to foam followed by lamination to a acrylic resin sheet ([0024]).

In contrast, Claim 25 now recites a twice thermo-formed and spread surface layer integrally molded to an outer shell layer containing long glass fibers - 5 to 10mm.

In addition to other differences, **Nakagawa JP'688** which does not disclose stretched plastic fails to anticipate Claim 25 which specifically recites stretched (spread) plastic. Claim 25 now recites:

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a twice thermoformed and spread surface layer having a front and rear surface, the surface layer being spread in a direction selected from the group consisting of: longitudinal direction and transverse direction;

Therefore the references cannot anticipate the amended claim 25 and claims dependent therefrom.

Claim 14 is rejected under 35 U.S.C. §103(a) as being unpatentable over **Nakagawa JP'688** in view of **Adams'718** in further view of **Akamatsu'890**.

Claim 15 is rejected under 35 U.S.C. §103(a) as being unpatentable over **Nakagawa JP'688** in view of **Stier'330**.

Claim 17 is rejected under 35 U.S.C. §103(a) as being unpatentable over **Nakagawa JP'688** in view of **Seymour'086**.

Independent Claim 25, from which claims 14, 15 and 17 depend, recites a twice thermoformed and spread surface layer integrally molded to an outer shell layer containing long glass fibers - 5 to 10mm. **Nakagawa JP'688** does not disclose stretched plastic at all.

It is novel to use a material having the claimed properties in a specific forming process. For example stretching plastic (b) longitudinal and transverse spreading) is important in the forming process. Plastic that has been stretched during forming results in a final product with improved properties like elasticity and impact strength. Plastic that has been stretched and relaxed tends to have plastic "memory" giving it good elastic properties which are improved over non-stretched plastic.

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None of the references disclose, or suggest in combination, using stretched plastic for the surface layer. This is a significant physical difference because stretched plastic has different structural properties than non-stretched plastic. For example, **Adams'718** discloses the following about plastic forming (col. 11, lines 54-63):

EXTRUSION OF SHEET

The ingredients comprising the sheet are compounded by conventional means using conventional compounding equipment in batch or continuous manner. The conventional method of extrusion is preferably used to form a flat sheet in a continuous process and the flat sheet is typically cut by guillotine after cooling sufficiently and stacked. A conventional two stage vented extruder equipped with a sheet die can be used.

This conventional means of extrusion does not include using twice thermoformed spread plastic as now claimed in claim 25. **Akamatsu'890** does not concern an article made from spread plastic. Instead **Akamatsu'890** is related to a plastic article that has been subjected to etching, sensitizing, activating, electroless metal plating and electroplating (claim 1). **Stier'330** is related to a self-adhesive and slip-resistant surface coating and does not disclose using spread plastic to make the substrate for the surface coating (claim 1). Finally, **Seymour'086** is concerned to bathtub construction rather than the particulars of the materials used. In fact in **Seymour'086**, conventional fiber reinforced plastic is used in a process such as matched-metal die compression molding (col.1, lines 37-40). Nowhere in **Seymour'086** is there discussed using spread plastic for the bathtub.

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The physical difference of using stretched plastic can result in the claimed effect whereby the bending strength and modulus of bending elasticity and the Izod impact strength are increased over conventional glass fiber reinforced ABS.

Since none of the cited references suggest using stretched plastic, they cannot logically make obvious the invention as now claimed.

Also using long glass fibers can improve the product and working conditions for making the product. This is also nowhere disclosed or suggested by the references.

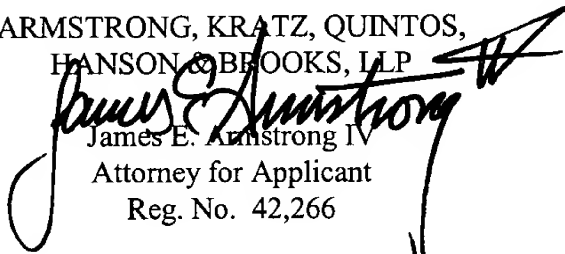
In view of the aforementioned amendments and accompanying remarks, claims, as amended, are in condition for allowance, which action, at an early date, is requested.

If, for any reason, it is felt that this application is not now in condition for allowance, the Examiner is requested to contact Applicants undersigned attorney at the telephone number indicated below to arrange for an interview to expedite the disposition of this case.

In the event that this paper is not timely filed, Applicants respectfully petition for an appropriate extension of time. Please charge any fees for such an extension of time and any other fees which may be due with respect to this paper, to Deposit Account No. 01-2340.

Respectfully submitted,

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